Ticks and Tick-Borne Diseases

Ticks can carry and transmit disease causing pathogens.

Ticks have four stages in their life cycle: egg, larva, nymph, and adult. The nymph and adult ticks are most likely to bite and transmit a disease to humans. Larva will bite humans but rarely transmit disease.

Ticks need a blood meal to molt into the next stage in their life cycle. They will attach to a host and feed for several hours to several days until they are engorged with blood. They will then drop off and molt or lay eggs. It's during the feeding process that a tick can transmit diseases but not all ticks are infected so a tick bite will not always mean you'll get a disease.

Personal protective measures to prevent tick bites:

-Use insect repellent (DEET NSN 6840-01-284-3982) and a permethrin treated uniform to minimize exposed skin.

-Wear uniform properly (sleeves down, tuck pants in boots, shirt in pants).

-Check for ticks after being in wooded, brushy, and grassy areas that could potentially harbor ticks.

If bitten:

1. Grasp the tick's mouthparts against the skin, using pointed tweezers.
2. Pull back slowly and steadily with firm force until tick is removed.

   DO NOT squeeze the body of the tick or apply any substance, including petroleum jelly, finger nail polish, or a lighted match to the tick, while it is attached. These methods are ineffective.
3. If possible, save the tick, by placing it in a clean, dry jar, vial, small Ziploc plastic bag, or other sealed container, for future identification should you later develop disease symptoms.
4. Discard the tick after one month if no disease symptoms occur.

U.S. tick species most likely to bite humans and their associated diseases

Tick Species	Tick Associated Disease
Ixodes scapularis (Black-legged tick)	Anaplasmosis, Babesiosis, Lyme disease
Dermacentor variabilis (American Dog Tick)	Rocky Mountain spotted fever, Tick paralysis, Tularemia
Amblyomma americanum (Lone Star tick)	Ehrlichiosis, Southern rash illness, Tularemia
Ixodes pacificus	Anaplasmosis, Babesiosis, Lyme disease
Dermacentor andersoni	Colorado tick fever, Rocky Mountain spotted fever, Tick paralysis
Ornithodoros species ticks (Soft ticks)	Tick-borne Relapsing Fever

Most common tick species that spread disease

Photo by James Occi

Ixodes scapularis (Black-legged tick)

Photo by Dr. Gary Alpert

Dermacentor variabilis (American Dog Tick)

Photo by James Occi

Amblyomma americanum (Lone Star tick)

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A tick can only transmit a disease pathogen after several hours of feeding so the sooner an attached tick is removed, the better!